

A
POPULAR TREATISE

ON

DIABETES

BY

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"YOUNG MEN'S GUIDE & MEDICAL COMPANION"

"PEOPLE'S GUIDE & MEDICAL COMPANION"

"EUROPEAN'S GUIDE & MEDICAL
COMPANION" &c., &c.

FIRST EDITION, 1000 COPIES.

PUBLISHED BY

M. DEAN & Co.,—DINAPORE.

1899.

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Price Rs. 1-8-0

PRINTED BY CHUNDY CH. MOOKERJI,
AT THE DINAPORE "CENTRAL" PRESS.
1899.

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PREFACE.

THIS treatise is written with the view of supplying a want which has been long felt in a country like India, where Diabetes is so much prevalent. It is a book written solely for the people, and not for the profession, however junior practitioners will find many things not only useful but instructive.

The book is written in the plainest language possible so that the readers for whom it is intended may not feel any difficulty in understanding it; medical terms have been scrupulously avoided, and where they could not be, they are explained. The author has written this book after reading almost all the books written in English language on the subject, and after having conferred

with some of the best specialists on it, of the present age of England, France and America. Besides this, he has observed and studied the subject clinically in diabetic subjects for a long time. He will feel himself very much rewarded for the labours and troubles he underwent in investigating the subject and writing out this book, if patients will be able to derive some good by its perusal.

The description and symptoms of the diseases will amply enlighten them about their disease and condition by which they can form some idea in a right way of the state of their health; and the advice, if followed properly will enable them to keep their disease at some check. The treatment, if well directed, will also enable them to cure themselves radically of their diseases which are considered by many to be almost incurable ones. However as

these diseases are of most inveterate and intricate nature it is much better to get treated by some specialist of good repute.

The book consists of 7 Chapters.

Chapter I is on the history, nature and causes of Diabetes mellitus. Chapter II treats of the symptoms, feature and prognosis. Chapter III is on the treatment giving the indication of many medicinal substances found to be useful and also curative in Diabetes mellitus. Chapter IV is on prevention and Chapter V treats of the complications with their treatment.

Chapter VI describes the other kind of Diabetes called insipidus together with its nature causes and symptoms and the VII or the last Chapter treats of the medicinal treatment of Diabetes insipidus.

It will be observed that the major portion of the book is devoted to the

description and treatment of Diabetes mellitus, and very little to the other disease Diabetes insipidus. The simple reason for this is, that Diabetes mellitus is much more prevalent than Diabetes insipidus, besides the causes symptoms and treatment of the latter disease is almost similar to those of the former with the only difference, that whereas there is a discharge of sugar with the urine in the former, there is no such thing in the latter.

The treatment is based on the new law of cure "*Similia Similibus Curantur*" which is popularly known as Homœopathy. Homœopathic medicines are generally given in two drops doses if in tincture form. They are also given in the form of pilules and globules, the doses of which are two and four respectively, but it will be better if lay readers will use more of tinctures than of globules and pilules, as the latter generally

get deteriorated by the lapse of time. The other form of Homœopathic medication is that of trituration, which is prepared with sugar of milk. The dose of this, is that of the size of a pea. Children should be given half the quantity and infants one-fourth. Homœopathic medicines are made of different dilutions or strengths by mixing rectified spirit or water in different proportions; so there are medicines of different strengths from 1^x to 1000. Below 30 they are called lower dilutions, and 30th and above it, higher dilutions. We would advise the readers of this treatise to use from 3 x to 6 x in the treatment of the disease whether in tincture or trituration form. Homœopathic medicines are given singly and alone, so they should not be taken in a mixed

form. As regards the repetition of doses, it depends upon the urgency of the case as shown by the existing symptoms. In advanced cases in which the symptoms are grave the selected medicines should be repeated every two hours, while in those in which the symptoms are mild it should be given only four times a day. The medicine should not be continued when the symptoms disappear, but in case when they subside to a certain degree but do not completely vanish, although the medicine has been given for a sufficiently long time, the medicine should be changed for another, a more symptomatic one. The radical cure however depends not only on the disappearance of all the symptoms but the removal of the original cause, as

will be observed in the chapter on treatment.

Patients under *homœopathic* treatment should not use anything which is stimulating such as wine, tea, coffee, anything which has strong odour or taste, such as ginger, chillies, mustard, camphor, assafotiada, cloves, cardamom, nutmegs and such other things, generally known as *hot spices* and used in culinary. Besides this they are also required to avoid scents of all sorts.

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CHAPTER I

DIABETES MELLITUS

ITS HISTORY, NATURE, AND CAUSES.

DIABETES Mellitus is a disease characterized by excessive flow of urine impregnated with more or less quantity of sugar and accompanied with great thirst, debility, emaciation and dryness of the mouth and skin.

It is a disease of most ancient origin as we find its description in the ancient medical works of India, Greece, and Arabia. The disease from the obscure nature of its causation has baffled the skill of most eminent physicians of both ancient and modern periods. The symptoms are so clear and striking that no

difficulty is encountered in diagnosing the malady, but the treatment is very often unsuccessful owing to the obscure nature of its morbidity. When we see the long array of medicines prescribed by the ancient physicians of different countries, specially of those enumerated before, we see it quite plainly how diverse were the methods and indefatigable their triance in coping with the disastrous action of this frightful malady. The ancient medical writers have described it as a disease in which the flesh and limbs of the person suffering with it, melt down into urine. We see it described in Charak and Ashtang Hridaye most ancient medical books of India under the name of *Madhu-prameh* or sweet urination. Later on we find it described most graphically by Aretæus the Cappadocian a physician who flourished in the year A. D. 200 and who was a contemporary to the famous phy-

sician Galen of Greece. Still later on we see it described by the eminent physician of Bokhara (Turkistan) Avicenna who flourished between A. D. 980—1037. Although all those ancient authors have most graphically described the symptoms of this malady still the medicines they have prescribed for it have one and all failed in producing a radical cure in the hands of the physicians of the present age, who took the trouble of investigating into the subject and prescribing them to their patients. The reason seems to be that they were unaware of the *pathological lesion of this malady. How could they know the true original cause of this malady, in ages when Pathology was almost unknown, and when we at this present moment with all the array of our advanced and developed sciences

*NOTE—Pathological lesion means the structural change in some parts of the system causing a disease.

of ¹ *Physiology*, ² *Pathology*, ³ *Biochemistry* and ⁴ *Bacterology* cannot come to a definite conclusion about the real Pathological lesion, which is the ultimate cause of this inveterate malady.

We find later on, in books written by the physicians of India within the last 300 years, at a time when metallic preparations came much into use; prescriptions made up of group of different metallic preparations which evidently show that the authors prescribed them most empirically. We may further add that these prescriptions on account of the nature of their ingredients, and the manner in which they are prescribed

1. **PHYSIOLOGY** is the science which teaches of the normal functions of the different parts and organ of the body of man or animal.

2. **PATHOLOGY** is the science which teaches of the abnormal functions of the part and organ of body of man or animal when in diseased state.

3. **BIOCHEMISTRY** is the science which teaches of the chemical composition of the body of a man or animal and its connection with the life of that creature.

4. **BACTERIOLOGY** is the science of bacterium or mycrob the supposed cause of many diseases.

are sure to do much injury to the consumers; and we have had ample opportunities to know this to be a fact from the patients who come to consult us after using such medicines. No doubt India is the birth place of medicine and the ancient books such as Charak and Sushrut show unmistakable sign of the scientific nature of their composition; but the books written by the physicians of that period when India was under Mohamedan rule, and when medical progress in India was at a standstill, plainly show to an unbiased medical observer, that they were written by physicians, who understood very little of the science and art of medicine, but were madly enthusiastic in introducing metallic preparations in diverse forms, without understanding their nature, composition, or action in the different diseases for which they have prescribed them.

We take the opportunity of caution-

ing our readers, not to be deluded into the belief of expecting good or cure from the long array of heterogeneous medicines specially metallic, to be found in books like *Rus Ratnaker*, *Rus Chintamoney* and others, at the risk of spoiling their health to a worse and some times incurable condition.

In Europe too, formerly medical men were quite in the dark about Diabetes. It was only in 1674 that a medical man by name Thomas Willis, an englishman by nationality discovered that the urine of some patient contained some sweet principle, and from that time, the type which is, up to this time accepted came into recognition *i.e.*, the type which contained sugar was designated by the appellation of *Diabetes mellitus* and that which did not, of *Diabetes insipidus*—Although this discovery was made in Europe in 1674; still it was known to the Indians at the

time of Charak, as is evident by the internal evidence of the book itself. Charak is supposed to have flourished about the period 1000 B. C., according to Surgeon-General Balfour Stuart of Madras Service, but we assign him a much more ancient date. A century later, *i.e.* in 1774, we find a physician by name Mathew Dobson of Liverpool discovering the presence of sugar both in the blood and urine of patients. Then again in 1815 M. Chevereul, a French physician came to the certainty that the sugar found in the urine of diabetic patient was not cane sugar but grape sugar.

In 1837 Mc. Gregor a Scotch physician of Glasgow discovered sugar in the vomitted matter of patients and thereby came to the conclusion that faulty digestion was also a factor in the production of this malady.

In 1848 Claude Bernard after

making several scientific experiments proclaimed to the astonished world. that animals as well as vegetables possessed sugar-creating functions. Before this the idea prevailed that the sugar found in human body was either sugar taken directly or was merely transformation of vegetable matters taken in. A true illustration of this scientific truth is to be seen in Polar bears who live entirely on animal diet but suckle their young ones with their milk, which decidedly contains sugar. The organ for the production of sugar whether in human being or lower animal was liver.

In 1849 Claude Bernard made a most important discovery showing that Diabetes was artificially produced by puncturing the floor of the fourth ventricle of brain, and thereby established the remote cause of the disease in the abnormal state of the brain.

Finally, in 1872 M. M. Cyon and

Aladoff stated before the Academy of Science of St. Petersbourg some interesting experiments in order to elucidate the origin of Diabetes mellitus, among which, one was that by irritating a certain locality in the brain, white marks were produced on the lobules of the liver, which was followed by a secretion of urine impregnated with sugar. This experiment virtually linked the disordered state of liver with the abnormal condition of brain in the production of the disease Diabetes mellitus. The nature of the disease and the peculiar failure in its successful treatment have led the physicians of the present time to assign various causes, but all with more or less uncertainty.

Some say that there are two kinds of Diabetes mellitus; one having its cause in the derangement of nervous system and the other of liver. These

are termed neurogenic and heptogenic respectively. Then there are others who believe the cause to be indigestion of a particular kind in which the power of assimilating of saccharine matter is decreased or entirely lost. Again, there are others who think that the cause lies in the debilitated state of the respirating organs which do not eliminate sugar from the system by proper combustion. Some believe that the cause is the abnormal state of kidneys which secrete sugar from the blood along with urine and other matters. It is also a fact that in different cases of Diabetes, symptoms of a certain organ predominate, such as, in some there is more exhaustion, while in others there is either indigestion, or congestion of liver. Although such is the case, but we know by long observation that these symptoms often change in their severity; and not

infrequently are absent at times, and are replaced by other symptoms which were formerly absent or present in a most mild degree.

The different features which led medical men to think different causes of this malady also led them accordingly to prescribe medicines of different nature, but alas! with not very good results. Very few Doctors, during my European and American travels, informed me that they were able to cure radically and completely cases of confirmed Diabetes. But we reserve this point to speak about when we come to write about its treatment. We must here declare our opinion about the causation of the disease and we do so, by stating that the original cause we think of it, is, the abnormal condition of some nervous centre in the brain. We are not in a position to say definitely about the locality of that pathological lesion

or its true nature, but so much is evident that the pathological lesion which produces diabetes has peculiar action in producing abnormal functions in lungs, heart, kidneys, skin and pre-eminently the liver as we generally find the following in diabetic patients. Slow respiration, decrease of natural heat of the body, secretion of urine impregnated with sugar and some times also with bile or albumen, torpidity of liver, absence of bilious matter in stool and dryness of skin.

The subsequent effect of this abnormal, nervous state upon the human constitution is not only innervating the whole system and producing all those symptoms which are characteristic of Diabetes mellitus, but something more; and these are the following which we have observed in diabetic patients.

- (1) The production of more water in the form of urine than that quantity what was imbibed.
- (2) The production of sugar in much greater quantities and its subsequent elimination than what was taken in.
- (3) The transformation of fatty tissues of the body into sugar and water. These all take place by the internal metamorphoses caused by the strong abnormal action of nervous system. While there is an increase in the production of sugar in the system, there is a decrease in its combustion by the weakened state of the respirating organs caused by general innervation, and hence the accumulation of

sugar in the system and its discharge with urine goes every day increasingly.

The reason we assign for thinking diabetes of purely nervous origin, is that we have repeatedly observed in diabetic patients, the changing of the permanent symptoms entirely, both with and without treatment, and sometimes the disease vanishing and then recurring with the same symptoms and vehemence after remaining dormant or suppressed for some time without any apparent cause and when the patient was perfectly in good health. Under such circumstances we are led to think the cause to be somewhere in the nervous centre.

Besides this the extreme debility which the disease produces in a few days, nay, just before the profuse urination and other symptoms of diabetes have commenced when the patient

begins to feel languid with dull tearing sensation in his feet, unmistakably show the nervous origin of the disease. We believe all those symptoms such as profuse urination whether of watery colour, or yellowish being impregnated with bile in addition to sugar, the diarrhoic or constipated state of stool, whether loss of appetite or voracious appetite, and all those various symptoms of diabetes which we will describe in the next chapter as mere symptoms produced in the different organs of the patient by the action of the original lesion in some nervous centre, in accordance to the existing condition of the general and the particular health of the different organs and parts of the patient's body on different occasions.

There are three most exciting causes of this malady (1) Malaria. (2) Debility owing to loss of animal fluid. (3) Indigestion.

Malaria is the most potent of the exciting causes of this disease, and the apparent proof of which is that Diabetes incomparably is much more prevalent in Bengal, a well known malarious province, than in any other province of India. The action of malarial virus on the human constitution is to innervate it. Besides the property of producing strong fevers in persons who have inhaled it in large quantity it has decidedly the power of producing a general depression in the nervous system, debility in the muscular system and a susceptibility of the body to catch disease by which people become an easy prey to many maladies. The people of Bengal, which is a malarious province, well illustrate the above.

Debility is another exciting cause of this malady. People who have indulged much in sexual intercourse, so much so as to have debilitated their cons-

titution have been found to be suffering with diabetes.

The third and the most exciting cause is indigestion. People who have been suffering for a long time with some form of indigestion more especially that in which the power of assimilation is decreased have been found afterwards to be suffering with sugary urine, which slowly terminated in cases of confirmed Diabetes. The most prominent symptoms of this sort of indigestion is diarrhœic stool, or voiding of large quantity of stool, a thing evidently showing the non-assimilation of food. Besides these, there are other minor exciting causes, such as, the much use of alcoholic liquors, sedentary habits, exposure to cold winds or rains &c. The disease is more common in cold than in hot countries, provided the latter is not infected with malaria, we also see its great prevalence in countries where rice

grows abundantly and where it is the staple food of the people than, in places where wheat is the staple food. To give an example, it is more common in Sind and Madras which are undoubtedly healthy and non-malarious provinces but where the food of the people is rice, than the Punjab and North Western Provinces which are equally healthy but where the staple food is wheat and not rice. In places which are both malarious and rice-growing, the disease is much more prevalent, such as Bengal and Mysore. The use of sugar in great quantities by persons of weak constitution may also be an exciting cause, but we do not for a moment believe it to be the actual cause as some physicians do think. The elimination of sugar in the urine is the result of the deranged state of the health called Diabetes and not the cause of it.

Diabetes mellitus has been known

to have occurred in persons who have sustained severe injury to their heads, and has also followed profound grief or general excitement in persons of nervous temperaments.

CHAPTER II

Symptoms, Feature and Prognosis.

THE early symptoms of this dire disease develop slowly and insidiously, and so it is almost impossible for the patient or his medical adviser to detect its presence. In the beginning before the striking symptoms of profuse urination and extreme thirst begin, the patient suffers with the following symptoms—general indisposition and depression, debility and nervous prostration, lack of firmness of will, and disinclination for any mental or physical work. A general laziness

overcomes him and he does not like to leave his bed but stays in for more than usual time. Slowly afterwards the following symptoms follow. Clammy and frothy state of the mouth and discharge of urine of yellowish color which becomes afterwards turbid, emitting an odour of over-ripe apples. Up to this time the patient hardly suspects that the terrible foe, diabetes, is taking possession of his constitution. Besides this, the way in which people live in this country, hardly gives them the opportunity of observing the abnormal state of the urine if there be any. Such a state with the above mentioned symptoms may last for a short or long time according to the age, general health and occupation of the patient; after that, the most striking and terrifying symptoms appear, plainly telling the patient that he has become a prey to the attack of the

formidable foe, diabetes; and which are these, namely, much urination loaded with sugar, excess of thirst, inordinate appetite, general emaciation and great exhaustion. These are the five most prominent symptoms of this disease which go to distinguish or characterize it from other diseases. It will be better if we take over symptoms separately and write upon them a little more descriptively for the sake of our poor readers for whom only this book is written.

We will first commence with *urine*. As a rule a healthy adult passes from 30 to 35 ounces of urine in summer and from 35 to 40 ounces in winter during 24 hours. Of course the quantity varies a little according to the country's climate in which he resides and to the quantity of fluid he imbibes. So those who live in cold climates pass more urine than those

who live in warmer climates although in the same state of health ; in the same manner if a man owing to have taken a certain kind of food, drinks more water he is sure to pass more water than on other days in the same state of health. Generally the color of a healthy urine is that of straw, and very seldom colorless like water. The specific gravity of healthy urine varies from 1010 to 1020 and is tested by an instrument called *urinometer*. Sugar is the most common cause of high specific gravity in the urine.

Now, in diabetes the quantity of urine is much more increased—not only the quantity is increased but also the frequency to urination. The frequency and quantity depend on the stage and severity of the disease. A healthy man hardly goes to make water more than four times a day, some go even three times only, and very few five times but

the general rule is four times a day. Whereas the diabetic patient goes at least six or seven times; and the frequency increases as the disease advances and so we have often observed in bad cases, patients going to make water almost every half an hour or say about forty times during day and night. The frequency is not so much in the night as it is in the day, however it is not an uncommon thing in confirmed cases that patients have to rise six or seven times during the night for the purpose. Sometimes the urination is so frequent that no sooner the man drinks he feels inclination for going to the water-closet. Drinking and urination go on in continuous alternation to each other. The urgency for making water in some is so great that he runs away to the water-closet, feeling himself quite unable to restrain the passage of urine. This also goes to show the nervous

nature of the disease, as such a state cannot but be induced by the paralytic state of the bladder, which we presume is temporarily induced by the disordered state of the nervous system. Such patients also feel a desire to urinate, immediately on a mere thought of urination, although they had urinated, but just a minute before, and when there are hardly a few drops to void. Enormous quantity of urine is passed by diabetic patients in twenty-four hours. Cases are on record in which patients have passed as much as 35 or 40 pints of urine a day, usually they pass about from 15 to 20 pints a day. In some cases patients only have the frequency of making water but not the profusion. Such a urine contains sugar in less quantity but acidulous matter in greater quantities. Then there is another type in which the urination is neither frequent nor profuse, but the urine contains sugar and also bile in addition.

Then again some patients pass urine though not very much, of a yellowish muddy colour which solidifies to some extent after standing, and which emits peculiar odour as that of hay or of ripe apples in a putrefying or decomposing state. Most probably this is caused by the passing of the digested matter with the urine on account of the relaxed state of the portal system and kidneys. One and all of these types are neurogenic, as sudden depression is felt before the symptoms commence, and a great exhaustion and debility as soon as they appear. We may here mention that in malarious districts the peculiar feature of this disease is, that even in confirmed cases there are intermissions of long intervals as is the case with malarial fevers, but the intermissions are not regular. The specific gravity rises from 1020 to 1040 and sometimes as high as 1050 or even more, according to the quan-

tity of sugar present in the urine. The usual color of urine in advanced cases is that of pure springwater. Black ants are attracted by it on account of its sweetness and that is a test for the patients, to know that their urine contains sugar. However it is much better to get it examined. See *Appendix* for testing sugar in urine.

Then again in some instances, albumen is also present along with sugar in the urine. As albumen is most necessary thing for muscular development and strength such a type of diabetes produce more debility and exhaustion than the other one.

Thirst—This is no less a prominent symptom of diabetes than profuse urination. Our blood contains both solid and liquid substances in certain proportion, and thirst is the instinct endowed by nature by which we desire

and imbibe water or any other liquid for keeping that normal proportion between the liquids and solids. The liquid substance of blood taking some effete matters from the body, passes out of it in the shape of urine. In diabetes the emission of this liquid part is very much increased, the simple reason for which is that sugar attracts water and which in the act of passing out takes water with it in larger quantities which produces thirst. As the disease advances the thirst also increases, sometimes rather terribly. Patients have been known to drink water every fifteen or twenty minutes quaffing dozens of glasses of water a day. The thirst is more severe during evening and after meals. The more a man drinks the more he feels 'thirsty' and sometimes the stomach becomes full and distended, still thirst is just the same. The mouth becomes dry

and parched and there is no or very little saliva to moisten the lips which also become parched. The sensation in the throat is that of raw and dryness, and the most frequent drinking of cold water, which the patient very much likes, does not at all quench his thirst or take away the uneasy sensation from his mouth and throat. In the night too, the poor sufferer is tormented by perpetual waking for drinking water, sometimes he finds himself almost suffocated on account of the parched state of his mouth, lips and throat. The tongue has the appearance of raw meat. It is sometimes clean and sometimes covered with a white creamy fur. Very little moisture it emits with which the patient often tries to moisten his parching lips. The gums become spongy and sometimes bleed when the teeth become loose and sometimes fall.

Thirst is a much more distressing symptom than urination, and in bad cases patients become almost frantic with this trouble when they find that any amount of drinking does not quench their thirst. It is a most pitiable state in which diabetic patients fall and sometimes suffer most terribly. We may here mention that cold or iced water produces no quenching of thirst, although very palatable whereas warm water does to some extent.

Skin—The skin in this disease becomes dry and scaly to a certain extent. Perspiration to a great degree or completely is stopped. The cause of this is, that the circulation being not vigorous, the blood does not reach the farthest part to the surface of the skin hence the absence of perspiration which passes out of the body as urine and the dryness and scaly state of the

skin. Slowly the skin also loses its natural property of elasticity, and not infrequently complications arise owing to it, of which we will speak afterwards.

Digestion—The digestive function is not always at fault but the assimilative, without doubt is always faulty to a more or less extent. In some cases there is a loss of appetite, eructations, heartburn, flatulence and nausea. These symptoms are sometimes accompanied with diarrhœa or both diarrhœa and constipation in alternation to each other. As a rule in confirmed cases these symptoms are not found but in their stead voracious appetite and constipation are present. The patient feels great appetite, he eats very often and in large quantities, and like thirst, his hunger is also not appeased. The food he takes gets all digested but not assimilated and so all the nutrient matters pass

off from his body either with the urine, having been transformed into sugar by the peculiar action of the disease; or with the stool, having not been separated by the action of bile owing to the diseased state of the liver. Bile is a secretion of liver the function of which is to separate the nutrient matter of the digested food from its waste matter, when the former enters into the system as blood in the general circulation and the latter passes out of the system as fæces. Owing to the peculiar action of this malady the liver becomes somewhat congested and gets so disordered that neither it secretes bile in normal quantity or quality nor discharges what it has secreted which is so necessary for the separation of the nutrient matter from the waste, and the subsequent assimilation and nutrition which are dependent on it. Not only the liver gets deranged but

also the intestines and the pancreas. These organs also aid in the proper assimilation of the food, and owing to their derangement, the assimilation becomes very much faulty. Pancreas is the organ which emits a peculiar fluid called pancreatic juice and this aids not only in the digestion of the food but also in the lubricating of the lower intestinal canal which facilitates the easy expulsion of fæces. Owing to the decrease in the quantity or almost absence of this fluid and the great drain of water from the body through urination, stools become dry and hard which not only produce constipation, but also hemorrhages by the rough passage and consequent rupture of the blood vessels of the intestines. Constipation is almost a constant attendant in diabetes. *Piles and Fissures* are not uncommon in diabetic patients caused by the deranged state of the liver. The

digestive power becomes so delicate in some patients that a little overeating produces some of the symptoms of acute indigestion, but in a milder form, and a great thirst and subsequent profuse urination.

Emaciation and Debility—These are also the characteristic symptoms of the malady. Emaciation is caused in two ways one by the transformation of fatty tissues of the body into sugar and their further elimination from the body with urine, and the other by non-assimilation of the nutrient matter of the digested food as already observed above, under the heading of digestion. The emaciation is so marked that the formerly compact muscles seem to be loosened, they become flabby and almost hanging. The feature loses its bright lustre and becomes dull and shrunken. With emaciation the body undergoes great loss of weight and people who were

while in health stout, become thin like skeleton. Patients have been found to lose weight in such a rapid way as to lose at the rate of 4 or 5 pounds a week, until they have been reduced to such a state that no further emaciation could go on. Debility is concomitant with emaciation but it also often precedes it. It is caused in three ways. First by the depressive nervous action coming in the beginning of the disease from its pathological seat as has been observed in many patients. It is a peculiar kind of debility in which the man not only becomes weak but also quite depressed and exhausted. The other cause of debility is the elimination of sugar from the system through the kidneys. Sugar is a heat producing article. We are required to have two kinds of articles of food for the maintenance of our body in good condition, one tissue

forming and the other heat producing. The tissue forming or nitrogenous foods are those which go to make up the deficiency caused by the waste going on in our body. The heat producing or carbonaceous foods are those which go to produce heat in the body, which is very necessary for keeping the animal heat for performing the different functions of the body. This class of food produces heat by being burnt up with the oxygen of the air in the lungs. Now, sugar as already said, is a heat producing article and so when it is not allowed to be burnt up in the lungs for the production of heat which is anything but strength, one can easily understand the cause of the extreme debility in diabetes. Some physiologists are also of opinion that sugar also becomes a constituent part of the body and so produces nutrition. The verification of

this theory we often see in farmers, who become very fat in the season of sugarcane when they use it rather excessively. Besides this in advanced cases, as we have observed under the heading of digestion that fatty and albumeniar substances are transformed into sugar and subsequently get eliminated of the system with urine and this is also a potent cause of producing debility, but this is only to be found in the advanced stages and as the elimination takes place in the form of sugar, so we do not describe it as a third cause, but one coming under the sugar elimination cause. The third cause of debility which is also of emaciation is the deranged state of liver, intestines and pancreas by which the nutrient matter is not separated from the digested, and assimilated, by the system. When such potent causes are acting conjointly what doubt there can be of

the patients great debility and extreme exhaustion while suffering with this formidable disease.

The debility becomes sometimes so great that patients feel quite exhausted by even a little exertion, such as going up-stairs and removing a chair or some such light thing or furniture. Walking which is conducive to health even if practised to a little more extent produces tearing feeling in the legs and exhaustion.

Virility—Sexual power is either decreased or almost lost during the course of this malady. The cause is not far to see, when debility and emaciation go so far as to make the man unfit for ordinary works which require very little strength or exertion; how can he retain virile power which depends on great nervous activity and strength. With the loss of power the procreative function

also vanishes. But this loss is temporary, at least in that type of the disease where it is of intermittent nature, as with the suppression of the diabetic symptoms, the sexual power returns with the same intensity as it was before.

Cramp—This is another symptom of the malady but does not always occur, and in all patients. It generally occurs during night either in the leg or neck. It is not so painful as it is in cholera, however it is troublesome. This also goes off as soon as the sugar disappears from the urine.

Dropsy—This symptom which shows its appearance in the puffiness of the lower limbs, particularly around the ankles and on the face, is very seldom seen. Rare cases of ascites have also been met. It is generally found in those patients in which the urine contains albumen also in addition to

sugar. The discharge of albumen in the urine is not connected with the fatty degeneration of the kidneys as is the case in Bright's disease, and although the debility in such a type of diabetes is much more than in others still it is not of so grave an import as that of Bright's disease. With the general improvement of health by treatment, with or without the disappearance of sugar in the urine, it often vanishes.

Prognosis—Confirmed diabetes is a very serious disease. A large portion die if not treated well. The duration being from one to three years generally. It is more rapid in its course and fatal in its termination in young than in old persons. Persevering treatment, though not right and scientific, prolongs the course of the malady and decreases its severity though not cures it. It is more severe

in lean persons than in stout. The prognosis is worse in cases complicated with Phthisis or Carbuncle. Exposure to heat or cold after active work hastens the course and brings the sufferer nearer to death. The non-decrease or insignificant decrease of sugar in the urine notwithstanding persisted treatment and regimen are of grave import. Death usually occurs in the end by the poisoning of blood caused by its excessive impregnation with sugar. Coma one of the harbingers of death makes its appearance and the patient falls into deep drowsiness or lethargic sleep from which no more to rise again and there ends the closing scene of diabetes.

DIABETES MELLITUS.

CHAPTER III.

Treatment.

THE successful treatment of this inveterate malady depends entirely on skilful treatment. The aims of treatment are to reduce and subsequently to stop the discharge of sugar in the urine, to produce enough of animal heat for the combustion of sugar in the system, to correct the derangements of liver and pancreas, for the proper assimilation of food, and last of all to produce strength which is lost every day in an incredible way. Of course the inordinate thirst, and many other symptoms vanish away as soon as the elimination of sugar is somehow or other stopped. But the chief aim in the long run must be, after the more troublesome symptoms have been sup-

pressed, to remove the original cause. The nervous derangement is as we have already said the true and primal cause of the malady.

Among allópaths different authorities on the subject, have prescribed different medicines, all, with the aim of diminishing or stopping the elimination of sugar in some way or other, but with very little success, as they always ignored the original cause and treated the disease superficially.

No doubt their treatment gives temporary relief but never a complete cure. To illustrate the way of their treatment we take the liberty of naming only one of their remedies in the way of example. We will speak of *codeia* which has the first place among the remedies of diabetes in the hands of allopaths. Now, this *codeia* is one of the several alkaloids found in opium.

It stops or reduces to a great degree the elimination of sugar in the urine by getting the sugar burnt in the lungs, by its peculiar action of producing great heat in the system and acting on the functions of lungs and heart. But it does not go to strike at the root of the cause of the disease. Leaving aside starchy substances which a diabetic man takes; the albumeniarý substances which he takes as his food and which do not contain a particle of sugar, all get transformed into sugar, by the peculiar action of this disease, nay the very fatty tissues of the body become also transformed into sugar—where is the action of *codeia* there. It is just like giving a stick to a lame man to support himself with. Then again *codeia* has a very strong action on the intestines in producing extreme constipation. Now in a disease like diabetes in which constipation is a most persistent symptom; is not the administration of *codeia* some-

thing like adding fuel to the fire? In order to combat the costive effect of *codeia* on the intestines patients have been known to take often purgatives and enemas which are both troublesome and debilitating.

Numerous medicines have been prescribed on similar principles with little or no good, such as, morphia, alkaline bicarbonates, pepsine, rennet, iodide of potassium, bromide of potassium, conia, canabis, etc.

The same is the thing with the Hakeems, that is they also use many drugs empirically and their empericism is fortified by their total ignorance of the pathology of the disease which is not the case with the allopaths. We may mention here one remedy which is much vaunted off in their books, and this is the seeds of Jambol, or what is called in Hindustani *Jaman*. On the authority of Hakeems and Hakimee

books we once tried this on a patient. The effect was wonderful, the discharge of the sugar was not only reduced but entirely stopped and with it thirst also vanished away. The specific gravity came to the normal degree and all this was effected in a short period of a week, but what was the effect afterwards. Glandular swellings appeared on different parts of the body which slowly began to be painful and we became afraid that the patient might not get blood poisoning. The swellings only disappeared after our great effort and treatment which extended to more than three weeks. Now the action of the drug was simply to stop the elimination of sugar by not allowing it to pass through the kidneys with urine. Unlike *codcia* it did not get the sugar burnt and the result was the abnormal accumulation of sugar in the tissues and the production of glandular swellings which might have changed into malignant tumours.

We have already spoken of the Ayoorvedic system of medicine on this disease in the first chapter and so wish to say no more now. Suffice it to say that although we believe in the general efficacy of Ayoorvedic medicines singly and separately, we do not believe in the compounding of medicines and complexity of prescriptions, more so of metallic substances, the property of which are so easily changed by combination, a fact well known to every one who knows a little of chemistry. Reverting again to the mode of treatment followed by the medical men of the western world, we may mention here that there is a class of medical men who do not believe in the cure of this malady, but attach much faith in the efficacy of certain spring water, where they advise their patients to go and stay, enjoy the climate there, and drink the water of that particular spring. The following springs are much famous for

their efficacy, Vichy in France, Carlsbad in Austria, Bristol Hotwell in England and cold spring of Isle of Wight. Those springs either contain large quantities of bicarbonate of soda or sulphate of soda. Both the bicarbonate and sulphate of soda act in changing the urine from acidulous to alkaline. Not only do they produce alkatinety in the urine but also in the blood and so destroy the lactic acid which is found in great quantities in the blood of diabetic patients and which is the immediate cause of the production of sugar. Spring containing sulphate of soda has one action more besides these, that is, of stimulating the cells of liver for performing their function normally. In this way these spring water act upon the diabetic patients producing much relief sometimes almost cure, but it is very rare that a cure is produced entirely by the only use of these spring-waters. When we visited Vichy and

met some medical men there we were informed that the use of the water, produced only relief and the cure depended on the patients going there every summer for 3 or 4 years and getting themselves treated by some skilful physician during winter, of course by proper medication.

There are some sulphureous springs in Kashmir, most probably containing sulphate of soda, which we think will be as much efficacious in this malady as are the springs of the European countries just mentioned above.

Again there is a class of doctors who treat diabetic patients with hygienic treatment in which they pay particular attention to diet. They forbid all articles which contain sugar or starch even in the least degree such as, rice, wheat, potatoes and most of the vegetables, too numerous to enumerate here. They allow their pa-

tients to partake of gluten-bread, almond, biscuits and meat. Gluten is a nutritive principal found in wheat so gluten-bread is wheat-bread minus starch. Of course by following such strict regimen, the disease is kept in great check but is never cured, on the other hand it slowly runs its course and in the end produces fatality which it would have produced a little earlier.

Some of even those, who treat this disease medicinally are over-strict in totally disallowing their patients sugar or starch in any form. By such an act they show that they think, that the cause of the disease is sugar, and so ignore the fact that the original cause lies in the derangement of some nervous centre most probably accompanied with structural change too. There are some who go so far as to disallow fatty substances also knowing that fat is transformed into sugar in this disease within the organism. Although it is

certain, that if more sugar be taken, more sugar will be passed in the urine and as sugar attracts water there will be more thirst and urination. Still it does not go to prove that it will go to help the preliminary causation of the disease, which is in the derangement of some nervous centre. The production of sugar is the result and not the cause of the disease, moreover it has been ascertained that many of the sweet fruits do not increase the quantity of sugar in the urine.

In our consideration there should not be a hard and fast rule, that all things containing sugar or starch should be avoided and there are three reasons for it.

- (1) That sugar is a necessary thing in certain quantity for the health, and it produces animal heat ;
- (2) That if the patient at any distant period takes saccharine

things, being tempted, the disease grows tremendously in violence, a thing which we know every day by observation, and

- (3) That the production of boils and carbuncles are more certain in a patient who totally abstains from saccharine or starchy things than those that take but very sparingly.

Hence we do not entirely forbid the use of sugar and starchy things but allow, of course in great moderation. Besides the medicinal treatment the observance of the following will be very much useful to diabetic patients and accelerate the treatment.

- (1) A diabetic patient must try to keep his digestive system in order as far as it is practicable and this he can do (a) by partaking of light nutritious diet (b) by well masticating the food (c) and by

taking very little at a time. It is much better for them to eat six times in small quantities than to over-eat once.

(2.) He must take out-door exercises in open air, in the shape of walking, riding, or such light games as Tennis and Badminton. Cricket and Foot-ball are plays which require much strength and strain on the nervous system which a diabetic can ill afford and they will produce, fatigue and exhaustion.

(3.) Taking short trips by rail or sea will be very beneficial, more especially the latter, and so if they can afford, they must do it.

(4.) Partaking more of animal food, such as meat, fish, fowls, eggs, milk &c. and less of vegetables. Sweetmeats, sugar, rice and potatoes must be taken very sparingly,

but wheat and other cereals can be taken as usual. Fruits of all sorts whether sweet or otherwise can be taken without reserve; but sugarcane and grapes should not be taken at all and if taken, they must be taken very sparingly.

(5.) In a hot country like India, bath should be taken every day. In summer with cold water, and in winter with warm water. The body should be well washed and rubbed with soap and rough towel.

(6.) His drinks must be pure and simple. Pure fresh water is better than any other liquid. Skimmed milk is also found useful both in producing nutrition and quenching thirst. Intoxicating liquors of any kind from beer, which contain very little alcohol to that of

brandy or whisky we strongly condemn as most injurious articles for the consumption of diabetic patients.

After speaking so much about the necessary treatment we come to describe the medicinal treatment of diabetes, the chief thing on which the cure of this inveterate malady depends. It must be well understood by our readers as we have also said before that the cure depends on the skillful treatment *i.e.* of the right understanding of the disease and of administering the proper medicine at a proper time. We do not believe in the incurability of the disease as many do, nor do we believe that it is amenable to treatment and cure by the observance of regimen although we believe that the latter helps much the medicinal treatment, which is the rational and effectual treatment. We do not also believe in specifics as we have up to

this time not found out one although tried much, but what we do believe is this, that the curability of diabetes is not impossible, but rather sure, if each case be well studied, its type understood and the treatment done accordingly by the administration of medicines in right way and in right times. We also do not think that a much longer time is necessary for producing a cure if the disease is treated carefully and skillfully. Taking into consideration the different types and the different stages of particular cases we think all curable cases must get cured within from two weeks to four months time at the most. We consider all cases curable when the patient has not become bedridden, or when the general poisoning of his blood has not set in, of course blood poisoning only sets in when the end of the patients is very near. We will speak of it in the chapter on complications.

The main thing, one is not to lose

sight of while treating this disease according to the existing symptoms with medicines, that the primary cause is in the nervous system; and that should be removed. The treatment will not be permanent though very efficacious if it will be conducted by the indication of the remedies only.

After explaining the way of treatment we give below a list of remedies with their indications which have proved to be useful or curative.

Acetic Acid—Abundant sugar in urine, urine increased and light coloured, great thirst, but cold drink lies heavy on stomach gangrenous ulcers; extreme prostration.

Argentum Met—Profuse, turbid urine sometimes like whey, more in night, has to rise several times. Emaciation and great weakness; face pale and sallow. Fetid taste in mouth.

Arsenicum Alb.—Great thirst in-
quenchable, dry mouth extreme prostra-

tion and debility.

Asclepias Vin—Artherites bleeding of gums, insatiable hunger and thirst, emaciation, impotency.

Berberis Vulg.—Constant urging with pain in neck of bladder also in lumbar and renal regions. Pale yellow urine, with gelatenous sediment, weakness of sexual organs, pale sallow face, sunken cheeks, sickly expressions; dryness and sticky feeling in mouth and fauces, sticky frothy saliva, increased thirst and appetite, skin scaling off, intense coldness of knees.

Bovista—Frequent desire to urinate, even immediately after urination, but not in larger quantities rather very little at time. Urine yellowish, red, becomes turbid also stain the place in a peculiar way. Throws violent sediment if allowed to remain for some time. General languor and depression. Palpitation after exertion. Backache with stiffness after stooping.

Calcareæ Phos—Diabetes when lungs are implicated, chronic cough. Phthises with profuse sweat.

Cuprum Met.—Urine acid, color normal, turbid after standing, reddish thin sediment, slowly advancing emaciation, depression of brain. Lungs diseased with symptoms of consumption, great thirst, increased hunger also urination, especially at night; dry stool, sexual desire decreased, cramps.

Curare.—Acute diabetes threatening life. Clear and frequent urination, with crampy pains in kidneys. dry mouth, great thirst, much sugar in urine, emaciation and great exhaustion.

Heper sulph.—The slightest contradiction makes him break out into the greatest violence, he could kill somebody without hesitation, sight gets dim when reading, unusual languor, great thirst, sexual desire increased erections feeble, urine acid, burning,

making the inner surface of the prepuce or of the pedunda sore and ulcerated. Emission of much pale urine which on standing becomes turbid, thick and deposits sediment.

Kali Brom—Emaciation and paleness, skin cold and dry, pulse rapid, tongue red, gums spongy and bleeding, excessive thirst, voracious appetite, bowels constipated, urine pale coloured containing sugar and of great density. Tenderness in liver.

Kali Mur.—Excessive urination, urine loaded with sugar. Dyspepsia. Torpidity of liver, stools dry and light coloured. Pain in kidneys, itching in the urethra, great weakness, and somnolence.

Kali Phos.—Nervous weakness, breath of hay like odour, thirst and voracious appetite, emaciation. Hepatic derangement, sleeplessness.

Kreosotum—Depression of spirit

with drowsiness. Head feels confused, dim-sightedness, flat bitter taste in the mouth. Frequent and copious emissions of hot clear urine. Great exhaustion. Great itching of the genitals during and after micturition.

Lachesis—Violent urging to urinate with copious discharge. Impotence. Lame feeling in back and extremities. Great weakness, emaciation and muscular relaxation. Peevishness and despondency.

Lactia Acid—Profuse urination with great thirst, urine frequently loaded with sugar, skin dry and rough, gastric derangement with obstinate constipation, feels tired and exhausted with great debility and emaciation.

Lac defloratum.—Backache, urination copious with excessive lassitude and prostration. Headache with nausea, vomiting and constipation.

Lithium Carb.—Very frequent urination disturbing sleep, turbid urine with much mucus deposit, dark, reddish brown deposit in urine.

Lycopodium.—Constant thirst and hunger worse at night. Mind depressed, want of natural heat in the body, indigestion, flatulence, sexual desire and power lost, gravel in urine, great emaciation and exhaustion.

Lycopus Virg..—Copious discharge of pale or clear urine containing much sugar with intense thirst. Nervous derangement.

Magnesia Phos..—Nervous weakness, diabetes accompanied with cramps and nervous pains.

Magnesia Sulph..—Mouth and throat very dry with a sweetish bitter taste in the morning. Urine copious light yellow, soon becomes turbid. Erection without desire for embrace. Exhaustion and prostration.

Moshus—Inquenchable thirst, great emaciation. Impotency. Costiveness. Emission of great quantity of urine, impregnated with sugar. Dryness of mouth. Earthy complexion. Nervous debility. Deranged liver.

Natrum Sulph.—Depressed feeling, dullness in the head and weakness of sight, dryness and burning in the eyes. Great thirst for cold water, voracious appetite; cough with perulant expectoration. Deranged liver. Urine loaded with bile.

Nux Vom.—Diabetes attended with liver derangements, stools clay coloured or black showing the absence of bile. Dyspeptic symptoms. Piles.

Plumbum—Diabetes accompanied with tenesmus at the neck of bladder, with burning in the urethra. The urine looks solidified, brown reddish in colour. Great exhaustion. Impotence.

Padophyllum—When the disease is accompanied by dyspeptic symptoms or derangement of liver. such as, heart-burn, flatulence, diarrhœa, or constipation; when the liver is in torpid state with stool of clay coloured nature, and piles.

Phosphorus—When the disease is complicated with *Phthises*, urine profuse, generally pale and turbid which afterwards curdles like milk emitting the smell of over-ripe apples. Also with brick dust sediment in the urine, cerebral depression, cheesy ^{ne}degeneration of the lungs.

Phosphoric acid—When the disease is induced apparently by debility caused by loss of animal fluids, weakness of mind, falling out of hair, dimness of eyes, lassitude and heaviness. Urine thick like that of chyluria, or cloudy like lime water, great debility and exhaustion. Impotence.

Picric acid—Cortex of brain congested, urine contains sugar and albumen and is of dark red colour with high specific gravity. Great indifference, lack of will power to do anything. Saliva white and frothy. Great sexual desire; with emission. Excessive languor and prostration, throbbing and jerking of limbs with great pain between the hips.

Ratanhia—Great emaciation with weakness, insatiable thirst with constant dryness of mouth, gum livid and swollen; severe pain in the small of back. Hard stools with constipation.

Sulphur—As an intercurrent remedy in cases of long standing. Itching sensation in private parts. Disordered liver with constipation and piles.

Secale cor—Great general lassitude heaviness of limbs, loss of strength, emaciation, gangrene, skin dry and withered, inquenchable thirst, diarrhoea.

Tarantula His.—Great prostration,

profound grief with anxiety, loss of memory with dimness of sight. Intense thirst with parching-dryness of mouth. Insatiable appetite, profuse urination with pain in the lumbar regions. Constipation.

Terebinthina—Inability to concentrate the mind. Dull despondent feeling. Dimness of sight, spongy gums, bleeding from nose. Rancid eructations, burning in stomach and hypochondria. Urine contains both sugar and albumen.

Thuja—Frequent desire to urinate day and night, longs for cold food and drink; urine contains sugar, foams, deposits brown mucus sediment.

Uranium nit.—Diabetes with defective digestion and assimilation; urine impregnated with much sugar. General languor, debility. Copious salivation, vomiting with great thirst, putrid eructation, urgent desire to evacuate bladder and rectum; frequent micturition. Lung

infiltrated with grey tubercles, urine smells fishy, prostration, somnolence, restless at night.

There are many more remedies besides the above mentioned ones, too numerous to describe in a book written especially for the people.

CHAPTER IV.

Prevention.

PREVENTION is better than cure, is a maxim accepted by all. The first thing is to see whether there are certain classes of people who are liable to its attack, and if so, what measure should they adopt to prevent it.

The following kind of persons are supposed to be more or less liable to its attack than others.

(1) Children and near blood relations of diabetic persons. Pavy, a well known London specialist quotes of several cases in which children, brothers and sisters of diabetic patients became subject to the attack of this malady, this shows that the disease is in some way hereditary, however the tendency is not very strong.

(2) Persons of weak digestion.

(3) Persons of debilitated constitu-

tion living in malarious districts.

- (4) Persons who lead a life of free indulgence in intoxicating drinks or sexual intercourse, or both.
- (5) Persons who become too fat.
- (6) Persons suffering with nervous debility caused in any way.

In order to remain free from the clutches of this dangerous malady the following should be observed.

- (1) The digestive organ should be kept in perfect order by taking regular exercise of some sort, nutritious simple food in little quantities, not overeating, and avoiding every thing which produces indigestion. Recourse may be taken to the use of medicines also, if it be necessary.
- (2) Nothing should be done beyond one's natural strength and if done by mistake, care must be at once taken to regain the lost strength by rest and abstinence

from that what has produced debility. Tonics may be also used under the guidance of a medical man if the above observance be not sufficient to produce the desired effect.

- (3) The temperature of the body should always be kept normal. If there be a fall in the temperature, if the hands and feet feel cold to the touch, care should be taken to raise the temperature. It is generally the case with fat people. Such a sign is generally the forerunner of diabetes. The temperature can be raised by active exercise and the moderate use of stimulating food; at the same time sweet and fatty substances should be avoided by all means, and if taken, must be in great moderation. The saying keep your hands and feet warm and

head cool is quite applicable to this case also.

- (4) Malarious provinces should be avoided by all means and a dry healthy place may be chosen for residence.
- (5) If the health remains bad at a certain place and does not get improved, short journey by rail or sea should be performed.
- (6.) If the constitution of such person be naturally weak whether married or unmarried, they should lead an unmarried life.
- (7.) The use of vegetables should be disencouraged and that of meat of all kinds encouraged. Fruits of the season must also be taken, but they must be ripe and sound. Some unripe sour fruits are also advisable. Intoxicating liquors should be scrupulously avoided.

CHAPTER V.

Complications and their treatment.

THERE are several complications which occur during the course of the disease, the most prevalent among them are the following.

(1.) **Phthisis.**—This consists in the breaking down of the lung tissues and the formation of cavities.

It generally occurs in the last stage, owing to chronic inflammation of the organ caused by excess of sugar in it, which it can not eliminate by combustion.

The prognosis is bad and when the disease has come to this stage there is very little hope for the patient. The patient is harassed with constant cough and expectoration of decayed lung tissues; and he becomes more weak and exhausted. Some time the intestines are likewise affected and he passes

stools like those of dysentery. In the end dropsy supervenes which is followed afterwards by death.

Calcareæ phos, *Bryonia* and *Phosphorus* may be tried for relieving the cough; *Arsenic*, *China* for the drop-sical effusion and dysenteric stools. Cod-liver oil may be used for invigorating the lungs. Other precautions must be taken what are necessary in an ordinary case of Phthisis.

(2) Boils.—Boils very frequently occur in diabetic patients. This also is owing to excess of sugar in the blood.

There are two kinds of boils. One ordinary with a pointed head in the centre; which becomes the outlet of matter during suppuration; the other, blind boil, in which no mouth is formed. These boils are hard to the touch and are very painful. In the beginning they are of the size of a split pea but gradually enlarge to that of a large bean.

They are very slow in suppuration especially the blind variety. They appear in numbers and very often recur. The pain increases as the suppuration goes on until the tumour bursts, discharging the pus and slough caused by the deposit of the unhealthy lymph. Blind boil take much time in suppuration and they almost never burst but require to be opened with a knife.

TREATMENT.

Belladonna should be given in the inflammatory stage. *Hepar Sulphur* to promote healthy suppuration in the suppurative stage. *Calcarea Carb* or *Silicia*, when the tumour has burst up, for the healing of the sore. If it is of recurrent nature, *Sulphur* may be given as an intercurrent remedy for preventing its recurrence.

Blind boils should be also treated in the same way, but it will be neces-

sary to get it opened by a surgeon. It is of a more tedious nature.

(3). Carbuncle.—It is a much more serious complication than boil, often proving fatal in its termination. It is very rapid in its progress, and as it is so dangerous, no time should be lost in calling an able medical man for its treatment. It is a disease which is considered purly surgical in its nature by the old school doctors who adopt only surgical measures, for its cure; but we consider it more a medical than a surgical disease, and we are glad to state that there had been much more cures under the new system of treatment than the older one, as the physicians of the former school (Homœopathy) als ayw treat it with medicines, very seldom using knife, and in rare cases.

Carbuncle is a large boil of malignant nature. It may be from the size of a cherry to that of a large orange.

It is of flat round shape, hard to the touch and dusty-red in colour. Its site of occurrence is the back and the posterior part of the neck. It is a most painful disease, producing burning pains to the sufferer, which afterwards ends in fatality. Usually it is tedious in suppuration and when it suppurates it breaks out with several mouths. The matter is generally thin and watery but sometimes thick and sticky. Afterwards the whole suppurated mass which was hard before, sloughs out, leaving an irregular cavity which begins to undermine into the adjoining tissues.

The pains expressed by patients are of most unbearable and fiery character. Sometimes after the cavity has been formed great exhaustive suppuration take place, and hectic fever makes its appearance in its train. If the carbuncle occur on the head which is

very seldom the case, the constitutional disturbances are more serious.

TREATMENT.

Aconite—In the commencement when there is heat and fever.

Belladonna—When there is great heat with throbbing pains.

Apis mel—When there is much burning pains.

Arsenic—When the burning pain is accompanied with great prostration. Especially useful when the swollen mass has sloughed off.

Hepar Sulph—When the suppuration has commenced but is slow.

Silicia—When the suppuration is too much and exhaustive.

Calcareo Sulph.—When it does not heal, and suppuration continues notwithstanding the absence of any infiltration.

Lachesis—When there are symptoms of blood poisoning with great general prostration.

Carbo Veg.—Coldness of extremities with dark blue appearance, sinking vital powers.

This disease not only produces great debility but also blood poisoning, and when the debility of the original disease is taken into consideration one can understand how great must be the weakness in such a complication. The patients must be well fed with light nourishing diet such as milk, mutton-broth, egg, and codliver oil. They always succumb to the great debility and exhaustion occurring in this malady or the poisoning of the blood.

(4.) *Cataract.* It is a disease of the eyes and consists in the opacity of its lens or capsules. It is often found as one of the complications in diabetes. It has lately been proved that artificial cataract can be produced by the introduction of sugar directly into the system. There are two varieties of cata-

ract viz. hard and soft. In this malady the vision grows slowly dim and dim until after sometime total blindness supervenes.

TREATMENT.—

Medicine has proved to be of very little use in the treatment of this malady. Some writers say that they have been able to cure cases of cataract by such medicines as *Silicea*, *Natrum Mur* and *Kali Mur*, but we have had no experience in the matter and so can not conscientiously endorse them with our testimony, however, there is no harm in trying them as they are harmless medicines. Cataracts are generally cured by surgical operation.

(5.) *Eczema*.—This is another complication of diabetes which though not dangerous, yet is most painful. It consists in papular, vesicular and pustular eruptions crowded together upon an

inflamed base and often colascing into one another. There is a burning and tingling sensation with severe itching in the affected parts. The disease as complication to diabetes is located generally near the private parts; females are more prone to its attack than the males.

The following medicines have been proved to be useful and curative in this malady *Rhus Tox*, *Croton Tig*, *Arsenicum Alb*, *Mercurius*, *Cantharis*, *Antimonium Crud* and *Hepar sulphur*. Any one of them may be tried, but they should be used in alternation with some remedy symptomatic to the original disease i.e. diabetes, as no good can be attained by treating it as simple eczema when it is merely a complication of diabetes.

CHAPTER VI.

DIABETES INSIPIDUS,

Its nature, cause, and Symptoms.

It is a disease characterized by excessive flow of urine like that of diabetes mellitus, but unlike it, does not contain sugar. The discharge of urine within 24 hours is enormous and is of pure spring-water colour of low specific gravity, containing almost no abnormal things in it. With the excessive flow of urine there is also great thirst present, with its concomitant symptoms of dryness and parchy condition of mouth. Other symptoms such as dryness of the skin, debility and exhaustion are also present but not to that extent what is found in diabetes mellitus. The disease comes on slowly and is of chronic nature and so lasts for a long time producing in the end total loss of appetite,

diarrhœa, vomiting, exhaustion and some organic complication which bring the life of the sufferer to an end. Almost all the symptoms of diabetes mellitus are present in it but in milder form except the production of sugar in the urine. Besides thirst, urination is more frequent and is of severer nature than that of in diabetes mellitus, but as the voidance of sugar is absent in this disease so the debility and exhaustion are neither sudden nor of grave nature. The immediate cause of the excessive flow of the urine which is the chief characteristic of the complaint, consists in the dilatation of the renal vessels due to paralysis of their muscular coat, resulting from deranged innervation. This deranged innervation has for its ultimate cause the deranged state of some nervous centre. Like diabetes mellitus, this disease has also been artificially produced by puncturing certain part of the brain, and there

are cases on record when a bad hurt either to the front or posterior part of the head has produced this dangerous malady.

As it is similar to diabetes mellitus so the same precautions should be observed for preventing it. We do not wish to dilate much on the subject and write exhaustively when we think we have said enough on its sister malady:—diabetes mellitus.

TREATMENT.—

The treatment recommended under the old school of medicine is the administration of such drugs as Opium, Valerium, Camphor, Nitrate of Potash, Iron, Iodide of Potassium, Arsenic, Belladonna, Bromide of Potassium, but they have up to this time proved of very little good in producing a radical cure although they relieve the suffering no doubt to some extent. However we recommend the use of the following

drugs of the new school to be given according to their indications and which have been found not only useful but curative in this dreadful malady.

Anantherum.—Clear abundant urine, day and night, with debility, great thirst, dryness of mouth; stools hard, grey or dark coloured; involuntary urination when walking and wetting of bed in night. Cannot stay, must run to the water closet when feeling desire to urinate. Unhealthy skin, easily suppurating.

Arnica Mon.—From mechanical injury, micturition of pale urine, containing excess of phosphates. Involuntary urination at night when asleep, or during the day when running. Dry mouth with much thirst. Longs for sour things.

Arsenic alb.—Profuse urination with unquenchable thirst. Weakness and emaciation. Watery diarrhoea, paleness

of skin, disposition to gangrene, slight motion causes palpitation and even some times fainting.

Belladonna—Urine more copious than the drink taken would warrant; pale watery, frequent, retained with difficulty. Marked symptoms of cerebral irritation, dilated pupils. Lips, mouth and throat dry and parched with thirst.

Calcareo Carb.—Frequent and copious urination, urine odourless and colourless, trickling of urine after micturition; voracious appetite and continuous violent thirst for cold drinks.

Cannabis ind.—Profuse urination of colourless urine. Dryness of mouth and throat with great thirst for cold water. Sticky saliva, voracious appetite. Nightmare as soon as he falls asleep. Loss of animal heat, exhaustion.

Causticum—Profuse urination, he

urinates so easily that he is not sensible of the stream and can scarcely believe in the dark that he is urinating. Involuntary urination when he is coughing. Great thirst for cold water.

Colocynthis—Peculiar milky urine which coagulates when standing, great emaciation, excessive urine, passes more than he drinks.

Helonias—Profuse, clear or light coloured urine, containing phosphates in a greater than normal degree, great languor, feeling of weakness and weight in the renal region. Bitter taste in the morning with dryness of mouth, tongue and throat. Complete impotence. Pains and feeling of numbness in back. numbness of feet, going off by motion.

Iodinum—Profuse discharge of bright yellow urine, constant restlessness, can neither sit nor sleep, eats too much, but loses flesh. Coldness of

hand and feet; rough, dry skin, often containing nodosities. Dizziness; glandular affections.

Kali Iod.—Frequent discharge of clear urine like water, excessive thirst day and night, more useful in syphilitic persons.

Kali Nit—Profuse discharge of water-like urine. Headache and diarrhoea after eating hard indigestible food. Fetid breath, stools hard like sheep's dung.

Lacdefloratum—Profuse urination, especially in anemic women with throbbing frontal headache, nausea, vomiting and constipation.

Lactic acid—Frequent and profuse urination. Must rise often in night extreme thirst and lassitude.

Murex Perpura—Constant desire to urinate, frequent flow of pale colored

urine. Extreme lassitude and weariness; sleep troubled with dreams. Hysteria with violent sexual desire.

Natrum Mur.—Profuse urination with unquenchable thirst, emaciation, loss of sleep and appetite. The skin is cold to the touch and does not perspire. Face shines as if greased. Involuntary discharge of urine, while walking, coughing or sneezing, urination nearly every hour in night.

Phosphoric acid—Debility from loss of animal fluid. Bad effects from grief, anguish, care or disappointed love. Frequent and profuse urination, forcing the patients to rise often in the night; urine thick like milk or clear like water. Great thirst, occasional diarrhoea.

Rhus Tox—Frequent urging, with increased urination; depositing a white sediment. Craving for cold milk, aversion to meat and liquor; great languor and muscular debility.

Scilla—Violent urging to urinate with frequent discharge of pale turbid urine, involuntary when coughing; mouth and throat dry, longs for sour things, not sweet, great thirst and appetite, anxious mind, fear of death.

Spigelia—Frequent copious urination preceded by pressive pain in the bladder, mouth dry, great thirst, voracious appetite, skin pale, wrinkled and sallow.

Taraxacum—Frequent, profuse and pale urine. Tongue covered with a white film with sensation of rawness, followed by the peeling off of the film in patches, leaving dark-red, tender, very sensitive spots. Thirst, skin dry and scaly.

Mineral water of Carlsbad (Austria) Vichy (France) Buffalo Lithia Springs. (America) are recommended.

APPENDIX.

THE URINE.

A HEALTHY adult passes from 30 to 40 fluid ounces of urine in 24 hours. The quantity in summer is less than that of winter. The colour of healthy urine is light amber, or straw coloured. A smoky tint shows the presence of blood. Deep yellow urine indicates presence of bile. Red urine generally indicates an excess of acid. A pale urine contains little solid or coloring matter always excepting the urine in diabetes mellitus. The froth on normal urine readily disappears but if it be permanent the presence of albumen or the constituent of bile may be suspected. The specific gravity of urine varies in health from 1010 to 1020. The simplest way of testing its density is by means of the urinometer. The urine to be examined should be a portion of the whole quantity passed.

in 24 hours. Put about 4 oz. in a cylindrical glass. Care being taken to remove all froth; the urino-meter is then introduced, and allowed to float freely without contact with the glass. To obtain a correct reading place the eye on a level with the surface of the fluid and look through the glass at the scale on the stem of the instrument. Sugar in the urine is the most common cause of a high specific gravity, if this substance be not present, uric acid will be the most probable cause.

Examination for Sugar.

Sugar—There are two tests generally much in use, one called Moor's Test and the other Trommar's Test.

(1). **Moor's Test**—Equal parts of urine and liquor potassi or liquor soda are poured into a test tube and the upper layer of this mixture heated to boiling, over a spirit lamp. The heated

portion becomes brown red, dark brown, or black, according to the amount of sugar present. If the mixture does not perceptibly darken on boiling, it may be assumed to be free from a hurtful quantity of sugar.

Cautions—High-coloured urines and urine containing excess of phosphates, darken perceptibly on boiling with caustic alkalies and if the urine be albuminous, the colour will be greatly deepened, though no sugar be present. Before applying the tests therefore to albuminous urine, the albumen must be removed by filtration after boiling, with a few drops of Acetic Acid.

(2). *Trommer's Test*—Put about a dram of the urine in a test tube and add about half the quantity of liquor Potassi or Soda. A weak solution of sulphate of copper (10 grs. to a fluid ounce) is now dropped into the mix-

ture. The precipitate first formed is rededolved by shaking the test tube. The Copper solution should be carefully dropped in and the test tube shaken after each drop is added, so long as the precipitate is easily rededolved. The solution will now be a blue transparent liquid. The mixture is next heated to boiling, when, if sugar be present, an orange red precipitate will first be thrown down, which, after standing becomes reddish brown.

Quantity of sugar in urine. To estimate the amount of sugar in the urine, put about 4 fluid ounces into a 12 ounce bottle with a piece of german yeast, the size of a chestnut ; set it in a warm place lightly covered, and by its side place another bottle of the same urine, without any yeast, and lightly corked. After a period of 24 hours, the fermented urine is poured into a glass and the specific gravity taken.

The specific gravity of the unfermented urine is also taken, and the number of "degrees of density lost" in the fermented urine will give the number of grains of sugar contained in a fluid ounce (Johnson).

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"This book has been written not only with the object of giving knowledge on the treatment

of diseases, but also with the object of imparting such knowledge, by which people may be able to avoid diseases, acquire and preserve sound health and attain longevity.

"It is divided into Five Parts. Part I. which is on Physiology, treats of the structure and functions of the human body, a knowledge imperatively necessary for the preservation of health and the prevention and cure of diseases. Only the general features and the most important functions have been described, as so much only is necessary for lay readers, and not the detailed ones, as that will be simply unintelligible and so useless to them. Part I, is subdivided into Four Chapters. The First Chapter is on General Anatomy & Physiology of the human system; the Second on Alimentation or the conversion of food into blood; the Third on Respiration and Circulation, and the Fourth on Sensory Organs.

"Part II, is on Hygeine, which is also subdivided into Chapters *viz.*—Food, Water Air and Hygeinic Observances. Under the chapter on Food, almost all the eatables which the human being consumes, are generally described with their advantages and disadvantages upon the human constitution. The chapter on food has got the following sections:—(1) General description and classification of food. (2) Salt. (3) Condiments. (4) Sauces and Pickles. (5) Tea (6) Coffee. (7) Cocoa. (8) Cocoanut Water (9) Tobacco. (10) *Pan.* (11) *Ganja* &c. (12) *Ærated* waters. (13) Alcoholic Drinks. *Chapter II*, which is on Water, describes what water is

its purity and impurity, the disease which comes on owing to the use of impure water and how to avoid them. *Chapter III*, which is on Air describes what air is, how it is vitiated, how much essential it is for the health to get pure fresh air, with the mode of getting that and the way of purifying deteriorated air. *Chapter IV*, which is on Hygeinie Observances treats of, the usages of and dealings with, the various thing, with which human beings come in contact and the various actions requisite for the maintenance of good health. It has the following Sections:—(1) Sun-light. (2) Dwellings. (3) Different kinds of Bathing. (4) Clothing. (5) Exercise (6) Disinfectants.

“**Part III**, is on food. In the Chapter on Food in Part II, food there, is superficially described with its classification but in this part it is described in *in extenso* in the various properties of its various classifications. It is subdivided into seven chapters. *Chapter I*, which is on general description of different kinds of Food, treats of the various kinds of food, their comparative nutrient properties upon the human constitution; such as grains, fruits, vegetables, flesh, milk and eggs of diverse kinds. Besides this, it tells about the quantities of different kinds of food which a man should take in twenty-four hours for the healthy maintenance of his body. Lastly, it gives a list of almost all eatables with the proportion of different nutrient matter contained in them and also the period of time, required for the digestion, with a gene-

ral hint for choosing meals of different hours both for vegetarians and non-vegetarians. *Chapter II*, treats of Food requisite for lean persons to become stout and plump. *Chapter III*, treats of Food, necessary for corpulent persons to become lean. *Chapter IV*, treats of food for gaining nervo-muscular power. *Chapter V*, treats of food for increasing memory and sharpening intellect. *Chapter VI*, is on the different kinds of food for invalids, with the mode of preparing them; and *Chapter VII*, or the last is on cooking flesh and vegetables.

"Part IV, which is on the treatment of diseases, is subdivided in 3 Chapters. *Chapter I*, contains the general remarks on diseases and their treatment, with the various causes of their origination. *Chapter II*, treats how to diagnose diseases and has the following sections under it, viz.,—(1) Pulse; (2) Heart and Lungs; (3) Temperature of body; (4) Tongue; (5) Urine and (6) Pain. *Chapter III*, which is by far the largest in the book treats of diseases medical and surgical, with their definition, features, symptoms and treatment both medical and accessory. This Chapter has following Section under it.

CHAPTER III.

General Diseases:—Typhus Fever—Typhoid Fever—Relapsing Fever—Intermittent Fever—Remittent Fever—Yellow Fever—Dengue Fever—Simple Continued Fever—Small Pox—Vaccinia or Cow Pox—Vericella or Chicken-Pox—Scarlet Fever or Scarlatina

—Measles—Chronic Fever—Dropsy—Syphilis
—Rheumatism—Gout—Scurvy—Purpura
Anæmia—Chlorosis—Rickets—Erysipelas—
Cholera, Asiatic or Malignant—Cancer—Scrofula
—Atrophy—Leprosy.

Diseases of the Respiratory Organs:—

—Catarrh—Laryngitis—Diphtheria—Croup—
Laryngismus—Stridus—Hooping Cough—In-
fluenza—Bronchitis Acute—Bronchitis Chronic
—Asthma—Pneumonia—Pleurisy—Phthisis—
Hæmoptysis.

Diseases of the Circulatory System:—

Heart diseases—Angina Pictoris—Fainting Fits
—Palpitation of the Heart—Aneurism—Phle-
bitis—Varicose Veins—Goitre or Bronchocele.

Diseases of the Digestive System:—

Stoma-
titis Thrush—Cancrum Oris—Teething or Den-
tition—Toothache—Gumboil—Glossitis—Ulcer
of the tongue—Sore Throat—Clergyman's Sore
Throat—Tonsillities—Gastritis—Hæmatemesis
—Indigestion—Dyspepsia—Gastordynia—
Water-Brash—Vomiting—Dysentery—Hernia—
Worms—Diarrhœa—Colic—Constipation—Piles
—Fistula—Prolapsus Ani—Hepatitis—Abscess
of the Liver—Tropidity of the Liver—Chronic
Enlargement of the Liver—Jaundice—Perito-
nitis.

Diseases of the Urinary Organs:—

Nephri-
tis—Albuminuria—Bright's Disease—Chyluria—
Uriteritis—Hæmaturia—Cystitis—Calculus—
Urinary Difficulties—Gonorrhœa—Diabetes—
Retention of Urine—Suppression of Urine.

Diseases of the Nervous System:—Cerebral Congestion—Cerebral Hæmorrhage—Cerebral Softening—Apoplexy—Sunstroke—Acute Meningitis—Tubercular Meningitis—Paralysis—Tetanus (Lock-Jaw)—Hydrophobia—Infantile convulsions—Epilepsy—Chorea or St Vitus Dance—Hysteria—Hypochondria—Delirium Tremens—Nuralgia—Nervous Headache—Insanity.

Diseases of the Eyes:—Ophthalmia—Iritis—Amblyopia—Muscae Volitantes—Strabismus or Squinting—Myopia—Cataract—Inflammation of the Eyelid—Hordeolum—Granular Eyelid—Entropium and Ectropium.

Diseases of the Ear:—External Ear Eruptions—Wax-Accumulation—Abscess of the Meatus—Earache—Antral Catarrh—Otitis—Deafness.

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Diseases of the Skin:—Erythema—Roseola—Urticaria—Herpes—Eczema—Pemphigus—Impetigo—Lichen—Prurigo—Psoriasis—Pityriasis—Strophulus—Acne—Mentagra—Chilblain—Ulcers—Boil—Corn—Nævus Mole—Warts—Ring-worm—Scabies—Medicinal Rashes.

Miscellaneous Diseases:—Intertrigo—Alopecia—Carbuncle—Whitlow—Bunion—Ganglion—House-maid's Knee—Morbus Coxæ—Hydrocele—Varicocele—Sleeplessness—Obesity—Guinea-worm—Curvature of the Spine—Abscess—Spleen—Elephantiasis.

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